

# Severity of Japan's nuclear disaster raised to highest level

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A month after the March 11 earthquake and tsunami, Japanese nuclear officials yesterday upgraded the severity of the nuclear catastrophe at the Fukushima Dai-ichi plant from 5 to 7—the most serious level on the International Nuclear and Radiological Event Scale (INES).

At the same time, the government and the nuclear agencies were at pains to explain that the Fukushima crisis was not comparable to the 1986 Chernobyl disaster in the Ukraine—the only other event ranked at 7—and to justify the long delay in making the change. Their statements are just one more aspect of the official campaign to downplay the impact of the nuclear disaster and contain the political fallout.

The decision to lift the INES rating became unavoidable because figures became available showing a massive release of radiation from the Fukushima site. The INES scale is a complex system designed to rank nuclear accidents, but a key feature is the amount of radiation that enters the environment. The rating of seven corresponds to “a major accident” that releases “more than several tens of thousands of terabecquerels.”

At a joint press conference of the Nuclear and Industrial Safety Agency (NISA) and the Nuclear Safety Commission (NSC) yesterday, both bodies revealed radiation estimates many times higher than the INES standard. Moreover, most of the radiation had been released in the first few days after March 11. NISA estimated that the total amount of radiation emitted up until yesterday was 370,000 terabecquerels, while the NSC put the figure for the period March 11 to April 5 significantly higher at 630,000 terabecquerels.

NISA spokesman Hidehiko Nishiyama insisted that the amount of radiation released amounted to about 10

percent of the total emitted during the Chernobyl nuclear disaster. Chief Cabinet Secretary Yukio Edano declared that the new rating reconfirmed that “an extremely major disaster” had occurred, but added: “In contrast with Chernobyl, we have been able to avoid direct health risks. The assessment level of 7 may be the same, but in terms of its shape and contents, the process has been different.”

It is certainly true that the Chernobyl and Fukushima disasters have different characteristics and that INES, like all ranking systems for multifaceted phenomena, has its limitations. At Chernobyl, a series of explosions during an emergency shutdown ruptured a reactor, set its graphite moderator on fire and sent a plume of highly radioactive material high into the atmosphere. At Fukushima, while the exact damage to the reactor cores of units 1, 2 and 3 is unknown, the primary containment vessels are believed to be largely intact. A significant quantity of radiation was released in the first few days as engineers and workers struggled to prevent a catastrophic meltdown of the reactor cores.

Despite the differences between the two nuclear breakdowns, the comments of Japanese officials continue to be evasive. Even NISA's claim that the radiation emissions amounted to only 10 percent of those at Chernobyl is dubious. NISA did not base its calculation on the official Soviet estimate—which would have given a figure of 20 percent—but on the generally higher estimates by other nuclear experts of the radiation released from Chernobyl. Even on this basis, the NSC figure of 630,000 terabecquerels would be 17 percent of the Chernobyl amount.

Significantly, Junichiro Matsumoto, a spokesman for the Tokyo Electric Power Company (TEPCO), told the press: “The radiation leak [at Fukushima] has not stopped

completely and our concern is that it could eventually exceed Chernobyl.” NISA spokesman Nishiyama immediately questioned the comment, declaring that he did not know how TEPCO arrived at its conclusion. However, TEPCO, the plant operator, is not known for public openness; it is notorious for the reverse—a long record of safety breaches and cover-ups.

It is clear that the crisis at the Fukushima plant is far from over. Even optimistic estimates indicate that it will take months before the three damaged reactors can be completely stabilised. This assumes that the present emergency cooling systems are not disrupted, the reactor cores are substantially intact and no further hydrogen explosions take place. The area is still subject to major aftershocks, including one yesterday that registered 7.1 and interrupted emergency cooling for about an hour.

Even before workers can begin to tackle the problem of restarting the normal cooling systems of the three reactors, highly radioactive water has to be removed from the basements of the associated turbine buildings and various conduits. Over the past few days, NISA and TEPCO have belatedly revealed the huge amount of water involved—60,000 tonnes—which poses serious storage difficulties that have not been solved.

At this stage, the radiation dispersal at Fukushima does not pose the same dangers as Chernobyl, but it has already had a serious impact on people and the environment. Tens of thousands of people have been forced to evacuate from a 20-kilometre exclusion zone around the plant and have been advised to remain indoors up to 30 kilometres from the plant. On Monday, the government extended the exclusion zone beyond 20 kilometres to include five towns, including Iitate and Kawamata, that are more than 30 kilometres from the plant.

Both the Japanese government and its nuclear agencies emphasised that the new severity rating did not signify additional dangers. NISA spokesman Nishiyama explained that the amount of radiation emitted from the Fukushima plant had fallen dramatically since the first few days after the earthquake. But he and other officials had difficulty justifying the delay in revising the INES rating to 7.

NSC commissioner Seiji Shiroya denied any delay at all, pointing out that the estimates of radiation emitted

relied on computer modelling that was complex and prone to error. “It was only when there was certainty that the margin of error was within two or three times that we made the announcement,” he stated.

Shiroya let the cat out of the bag, however, when he pointed to other considerations. “Some foreigners fled the country when there appeared to be little risk,” he said. “If we immediately decided to label the situation as Level 7, we would have triggered a panicked reaction.”

The primary concern of the regulatory agencies and TEPCO, as well as the government, is not “fleeing foreigners” but rather the economic and political impact of the catastrophe. One indication of the economic ramifications was yesterday’s fall on international share markets, which analysts attributed, at least in part, to the upgrading of the Japanese nuclear disaster.

Prime Minister Naoto Kan’s government is desperate to prevent a further erosion of its already low political stocks. Opinion polls have revealed a widespread distrust in the government’s handling of the nuclear crisis and suspicion that officials have been less than frank about the extent and implications of the disaster.

Well aware of public sentiment, Kan made a weak attempt yesterday to defend himself and his government. Reacting to criticisms of the delay in announcing the revised severity rating, he declared: “There are various ways of looking at this, and I know there are opinions saying that information could have been disclosed faster. However, as the head of the government, I never hid any information because it was inconvenient for us.”

Even then, Kan tried to reassure the public that dangers were diminishing. “Compared with before, today’s situation is improving step by step, or as I have just said, the release of radioactive particles is declining.” Given that the severity of the crisis had just been raised two notches, Kan’s comments were not at all convincing.



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